Dometic

ML 155 SG

MP 155 SG

OPERATING INSTRUCTIONS

SILVER Safety Standard

CE

820 9505 41 - ed1210

Dometic S.à r.l.
op der Hei 17
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Important Information

General

- Refrigerators of the ML- and MP-series are designed for storage and cooling of preparations that are subject to cold chain and temperature sensitive. The units are not intended to be used for cooling of foodstuffs.
- Before using the unit, read these operating instructions carefully, including all the information on operating safety, use and maintenance.
- Keep these operating instructions ready at hand and leave them with the machine, so that all users can find out about the functions and safety regulations.
- Ensure that there is sufficient room around the unit for air circulation. Please refer to the installation information regarding this point.

Safety

- All installation work and adjustments to the unit must only be carried out by qualified personnel. Work performed by persons with insufficient technical knowledge may adversely affect the performance of the unit or cause physical injury or damage to the equipment.
- The units must only be used by adults. Do not allow children to play with the units or touch the controls.
- All servicing and repairs must only be carried out by a qualified customer service engineer. Only genuine spare parts must be used.
- Ensure that the connecting cable is not squeezed or bent when the unit is being installed or moved.
- Before cleaning or carrying out maintenance work, always switch the machine off and disconnect the mains plug. Always pull the plug and never the cable. If the plug is not accessible, switch off at the safety device.
- The sound intensity level produced by the equipment is lower than 70 dBA (measured in a distance of 1 meter).

WARNING : The unit's cooling system contains flammable refrigerant. Due to this fact, the following information is particularly important.

- Both the unit and the products stored inside can be severely damaged if this system starts to leak. Make sure, therefore, that no sharp or pointed objects come into contact with the cooling system.
- No electrical equipment may be operated inside the appliance.
- The appliances contain environmentally friendly refrigerant. Before disposing of the appliance, the refrigeration circuit should be opened outside so that the refrigerant can escape.
  Attention: The refrigerant is flammable!

Transport

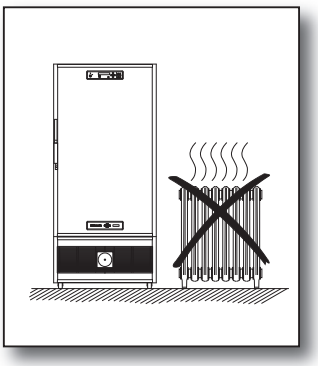
- Check whether the unit has been delivered undamaged. If you find that damage has occurred in transit, immediately contact the delivery service or relevant sales outlet, submitting the delivery note or proof of purchase.
- Do not operate a unit that has been damaged in transit! If you are unsure, contact your sales outlet and ask them.
- The unit must be transported in an upright position only (maximum inclination 45°).

Environmental Protection

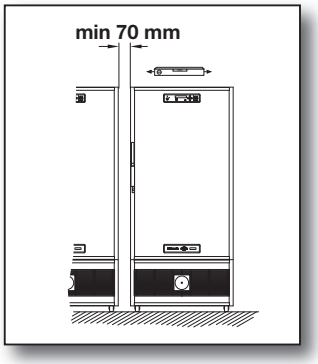
- Make your contribution to saving the environment. Bear in mind that orderly and proper disposal is required. Packaging materials and devices are always recyclable and should be taken for recycling.
- Before scrapping an old unit, remove the door so that children cannot lock themselves inside while playing.
- Before scrapping the unit, arrange for the lead accumulator to be removed and disposed of separately.
- When disposing of the unit, make sure that it does not get too hot, as combustible gas would cause the insulating foam to froth up.

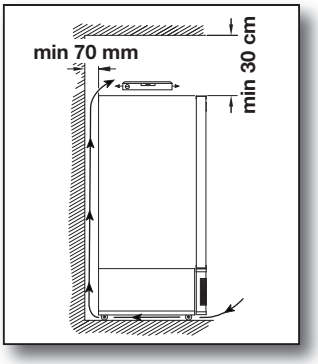
Installation

Location

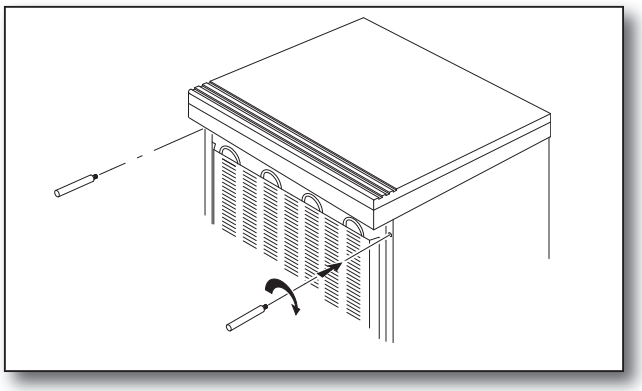


- The unit must be set up in a dry well-ventilated place. Avoid direct sunlight or locating it close to a heat source.
- Ensure that the unit is steady and perfectly straight and does not knock against any of the units next to it.





- The air must be allowed to circulate freely all round the unit as good air circulation is essential for trouble-free operation. There must always be a gap of at least 70mm all round the unit. Upright units must always be at least 30cm away from the ceiling.
- Do not locate the unit below a ceiling fan or right next to air-conditioning equipment.



- Two spacers are included with some models. These must be attached to the rear of the unit as shown in the diagram, before positioning the unit against the wall.

Cleaning / Disinfection

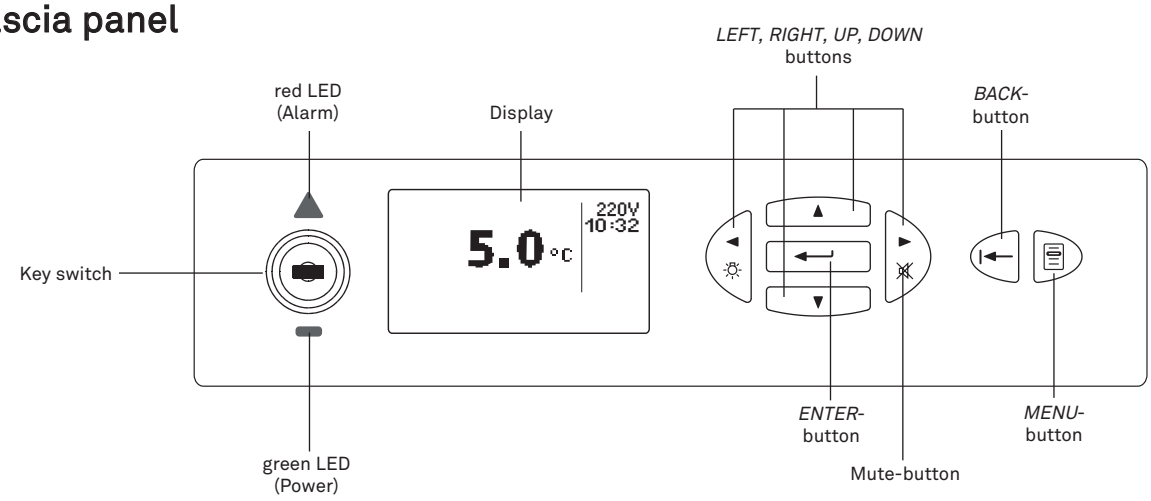
- Clean or disinfect the unit inside and outside before using it. Use only gentle cleaning agents. Never use aggressive or caustic cleaning agents, scouring powder, steel wool, abrasive sponges or chemical solvents.
- For disinfecting, we recommend all the surface disinfecting agents commonly used by the customer, provided they are recommended by the German Association for Hygiene and Microbiology (DGHM) or other national organisations. For disinfecting small areas, we recommend using a concentrated alcoholic agent.

Electrical Connection

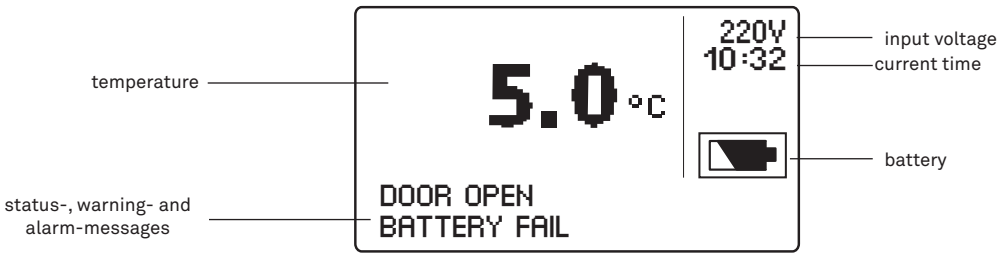
- Before connecting the unit and switching it on for the first time, allow it to stand for 30 minutes.
- Before connecting the unit, check whether the details on the nameplate in the interior correspond to local values.
- **The unit must only be connected to an earthed socket, secured by protective earth conductor and adequate fault-current circuit breaker.**
- To prevent problems with other electrical equipment causing this unit to malfunction, it should be connected to a separate circuit. Never connect the unit to a single socket with other electrical equipment by means of a multi-socket.
- Make sure that the plug of the unit is easily accessible so that if need be it can be easily disconnected without having to move other equipment or furniture.

Electronics

Fascia panel



Display



Switching on

- To switch the unit on, turn the key switch in horizontal position. The green power LED lights up.
- After the self-test, the temperature inside the refrigerator is displayed.
- The compressor will only switch on a certain time after the self-test.

Temperature Display

- During normal operation the display shows the internal temperature of the refrigerator. The temperature unit is dependent on the setting “TEMP.UNIT” in the SETTINGS menu. (°C - Celsius or °F -Fahrenheit).
- The display is carried out in steps of 0.1° or 1° - depending on the setting “RESOLUTION” in the SETTINGS menu.

Button functions

- Pressing the **MENU-button** gives you access to the menu area. Choose the respective menu using the UP- and DOWN-keys. The selection is confirmed with the ENTER-button.
- Press the BACK-key to return to the previous screen or menu.
- Navigation within the menus and changing of the settings are done using the **UP- ▲ , DOWN- ▼, LEFT- ◄ und RIGHT ►** keys.
- Use the **ENTER-key** to confirm the actual selection. This applies both for menu selection and for parameter value. The change of a parameter only becomes effective when confirmed with the ENTER-key.
- In the case of an alarm, the acoustic alarm can be switched off for a specified time with the “**mute button**”. In Menu-mode the “mute button” is out of function.

Setting the language

- The factory language setting of the electronics is ENGLISH. To convert to another language, proceed as follows :

press the MENU-key.
▼ select EXTRA ↵
▼ LANGUAGE ↵
▼ *select your language* ↵

The “SETTINGS”-Menu

- The parameters contained in the “SETTINGS” menu partially intervene in the function of the appliance. Access to the SETTINGS menu can therefore be protected by a password. It is recommended to use this protection to limit access to the parameters.

press the MENU-key
▷ select “SETTINGS” ↵
▷ USER PASSWORD :
0XXX ↵

In the factory setting this password is set to the value “0000” so that by pressing the ↵ - button you get directly into the SETTINGS menu.

▼ SET POINT ↵
▷ SET : X.X °C

The temperature set point is the set temperature of the refrigerator. The set point can be altered between the prescribed limit values in stages of 0.5 K.

▼ DATE/TIME ↵
▷ SET DATE/TIME ↵
▷ *HH:MM*
dd MMM yy ↵

Setting current time and date.

▼ SELECT 12h/24H ↵
▷ 12h DISPLAY ▲▼ 24h DISPLAY ↵

Changing between 12-hour and 24-hour display

▼ ALARMS ↵
▷ SET LOW ALARM ↵
▷ LOW ALARM : *X.X* °C ↵

The lowest admissible internal temperature. If the temperature falls below this value a temperature alarm is triggered.

▼ SET HIGH ALARM ↵
▷ HIGH ALARM : *X.X* °C ↵

The highest admissible internal temperature. If the temperature exceeds this value a temperature alarm is triggered.

▼ REMOTE DOOR ALARM ↵
▷ REMOTE DOOR ALARM
ENABLE : 0 ▲▼ 1 ↵

Activation of the remote alarm on opening door
0 = remote alarm off / 1 = remote alarm on.

▼ ALARM TEST ↵
▷ ALARM TEST ACTIVATION ↵
▷ ALARM TEST ↵

This function is used for simulation a temperature alarm situation. Pressing the ENTER-button will launch the following alarm test cycle:
1. Phased increase of the internal temperature until the upper alarm limit is reached. Triggering of the temperature alarm.

2. Phased reduction of the internal temperature until the lower alarm limit is reached. Triggering of the temperature alarm.

▼ REMOTE ACTIVATION ↵
▷ REMOTE OFF ▲▼ ON ↵ — The remote alarm function can be switched on and off for an alarm test.

▼ COMM. ADDRESS ↵
▷ COMM. ADDR: 0 ▲▼ 255 ↵ — With the aid of the built-in RS485 interface several appliances can be networked with each other. If this is the case every individual appliance must receive a separate communication address.
(setting of 0 – 255)

▼ SERVICE ↵
▷ RESET SERVICE TIME ↵
▷ RESET COUNTER ↵
▷ YES ▲▼ NO ↵ — After the expiry of a given operating time a “SERVICE” message appears on the display to call attention to the fact that a regular maintenance is due. The counter for this service time can be put back with this function.

▼ HIDE SERVICE WARNING ↵ — This function is for cancelling the “service” message.

▼ USER PASSWORD ↵ — Changing the password to access the “SETTINGS” MENU.

▷ CHANGE USER PASSWORD:
0XXX
XXXX ↵ — Enter the new password twice and confirm.

▼ CALIBRATION ↵ — This function is for calibrating the sensors. As each setting in the calibration compromises the function of the appliance, this function is protected by a password in the factory and must only be used by trained service staff!

▷ CALIBRATION PASSWORD:
0XXX ↵ — Enter the password to the calibration menu

The “EXTRA” - Menu

- The “EXTRA” menu only contains parameters without influence on the function of the appliance and are therefore accessible for any use without a password.

press the MENÜ-key
▼ select “EXTRA” ↵

▷ HISTORY ↵ — (see chapter “Alarm history” for further details)
▷ SHOW HISTORY ↵ — Display for alarm situations. With the aid of the UP and DOWN buttons you can scroll down the list

▼ DELETE HISTORY ↵
▷ DELETE HISTORY:
NO ▲▼ YES ↵ — YES : deletes the entire history data.

▼ BUZZER ↵
▷ VOLUME ↵
▷ BUZZER VOLUME ▲▼ ↵ — Setting the volume of the acoustic alarm signal

▼ MUTE TIME ↵
▷ MUTE TIME : 0 ▲▼ 60 ↵

On the occurrence of an alarm, the acoustic signal can be switched off for a given time by activating the ENTER button. The given time is determined by this parameter. It can be changed from 0 to 60 minutes in stages of1l minute.

▼ DISPLAY ↵

Setting the parameters for the display

▷ BRIGHTNESS ↵
▷ DISPLAY BRIGHTNESS
- ▬▬ + ↵

Setting the brightness with the ◀ and ▶ keys.

▼ CONTRAST ↵
▷ DISPLAY CONTRAST ↵
- ▬▬ + ↵

Setting the contrast with the ◀ and ▶ keys.

▼ POS / NEG ↵
▷ POSITIVE ▲▼ NEGATIVE ↵

Changing the display from positive (blue/white) to negative display (white/blue).

▼ BACKL. TIMEOUT ↵
▷ TIME OUT: : 0 ▲▼ 127 ↵

Duration of the display indication on pressing the button during a power failure.
(100 = approx. 10 Sec, 50 = approx. 5 Sec.)
(see chapter "*Alarm situations*")

▼ VOLTAGE IND. ↵
▷ LINE VOLTAGE ▲▼ NONE ↵

Shows the input voltage of the appliance on the display.

▼ AMBIENT PROBE ↵
▷ AMBIENT ▲▼ NONE ↵

If an ambient temperature sensor is connected to the appliance , the temperature measured by this sensor can be indicated on the display.

▼ ADD.PROBE ↵

Enables the additional display of the temperature values of one of the following sensors (if connected):

▷ NONE ↵
No value is displayed.
▼ REGULATION ↵
The value of the regulation sensor is displayed.

▼ RESOLUTION ↵
▷ RES.: 0.1° ▲▼ 1° ↵

Setting the resolution of the temperature display. The temperature can be displayed with or without decimal place.

▼ TEMP. UNIT ↵
▷ CELSIUS ▲▼ FAHRENHEIT ↵

Display of the temperature value in °Celsius or in °Fahrenheit.

▼ LANGUAGE ↵

Changing the menu language.

▷ ENGLISH ↵
▼ GERMAN ↵
▼ FRENCH ↵
▼ DUTCH ↵
▼ ITALIAN ↵
▼ SPANISH ↵
▼ PORTUGUESE ↵
▼ DANISH ↵
▼ SWEDISH ↵
▼ NORWEGIAN ↵

▼ FINNISH ↵
▼ MALAYSIAN ↵
▼ RUSSIAN ↵

▼ DIAGNOSTICS ↵	Display of the current status of the appliance (only for service purposes).
▼ PARAMETERS ↵	Display of the current setting of all parameters

Status- and Warning messages

- The electronics generate various status or warning messages depending on the setting or the condition of the appliance.
- If one or several messages are to be displayed at the same time in one line, these messages appear alternately on the display.

▷ DOOR OPEN	This message appears as soon as the door of the appliance is opened. If the door is not closed again after a preset time, an alarm is triggered. This alarm is not entered in the history list. The message or the alarm disappears as soon as the door is closed.
▷ HISTORY	This message indicates that a new entry has been made in the alarm history list. The message disappears as soon as the history has been displayed once with the function “SHOW HISTORY”.
▷ ALARM TEST	Appears during an alarm test. The message disappears as soon as the test has finished.
▷ AMB ..°C	If an ambient temperature sensor is connected to the appliance and the display in the EXTRA menu activated (- EXTRA - AMBIENT PROBE), this message appears followed by the currently measured ambient temperature in the display.
▷ REG ..°C	If the display of the regulating sensor is activated in the EXTRA menu (- EXTRA - ADD. PROBE - REGULATION) this message appears followed by the currently measured control temperature in the display.
▷ SERVICE	If the appliance has been running for a preset time this message appears on the display to indicate that a cleaning or maintenance procedure is required. The message can be cancelled with the “HIDE SERVICE WARNING” function in the SETTINGS menu.
▷ HIGH AMBIENT TEMP.	If an ambient temperature sensor is connected to the appliance and if this value rises above a given value this message appears on the display. The appliance will however function normally. The maximum value stored in the electronics depends on the temperature class of the appliance in question and cannot be changed.
▷ LOW AMBIENT TEMP.	analogous to “HIGH AMBIENT TEMP.” however with minimum value.

Alarm and error messages

- The following alarm messages can be generated by the electronics. Refer to the chapter “*Alarm situations*” for further information

▷ DOOR OPEN	see status-message “DOOR OPEN”
▷ HIGH ALARM	This alarm message appears as soon as the internal temperature exceeds the given upper alarm limit. A temperature warn alarm is stored in the Alarm History. The alarm message disappears as soon as the temperature reaches the upper alarm limit again.
▷ LOW ALARM	This alarm message appears as soon as the internal temperature falls below the given lower alarm limit. A temperature cold alarm is stored in the Alarm History. The alarm message disappears as soon as the temperature reaches the lower alarm limit again.
▷ POWERFAIL	This message appears if the power supply is interrupted with the appliance switched on. A power failure alarm is stored in the alarm history. The alarm message disappears as soon as the power supply is restored.

- If one of the following error messages appears on the display, a fault or a malfunction has occurred and the affected component must be repaired or replaced by the service staff.

▷ BAT.1 LOW/FAIL	This message appears if the internal main battery is faulty or flat. At the same time the battery symbol also appears on the display.
▷ BAT.2 LOW/FAIL	This message appears if the optional additional battery is faulty or flat. At the same time the battery symbol also appears on the display.
▷ SENS. REG. FAIL	Failure of the control sensor. The appliance continues to run in “FAILSAFE” mode.
▷ SENS. DIS. FAIL	Failure of the display sensor. In this case the display function is taken over by the control sensor.
▷ SENS. AMB. FAIL	Failure of the ambient temperature sensor.
▷ E1 / CFGERROR	Configuration fault: Fault in the parameter setting. The appliance does not start.
▷ E2	Electronics fault. The function of the appliance is stopped.
▷ COM ERROR	No communication between interface and mainboard. The function of the appliance is stopped.
▷ FAILSAFE MODE	Serious fault, however the appliance continues to run in "FAILSAFE” mode. i.e. the compressor switches on and off according to the set rhythm.

Use and Operation

Important advise for storage

- The goods should only be stored in the provided drawers and/or racks.
- The loading must never obstruct the air-inlet-openings inside the unit.
- Make sure that the loaded goods do not tilt to the backside.
- Make sure that the loading does not touch the reference bottle of the display sensor.
- Do not overload the unit.

Alarm situations

- On the occurrence of an alarm situation attempts must be made to find out the reason for the alarm and remove it as quickly as possible. If that is not successful the necessary measures must immediately be taken so that the stored goods do not sustain any damage.
- At a temperature alarm the red LED alarm lights up and an acoustic signal sounds. In addition the corresponding alarm message appears on the display.
- In the case of a powerfail alarm the green power LED and the red LED alarm flash and an acoustic signal sounds. The display is switched off but be temporarly switched on again by pressing any key.

  After a given time (setting: EXTRA - DISPLAY - BACKL. TIMEOUT) the display switches off again. The acoustic alarm can be suppressed for a set time by pressing the ENTER button. During a powerfail phase no parameters can be changed.
- If the internal temperature rises above the upper limit during a powerfail phase a temperature alarm is triggered and entered into the History list. In the case of a door alarm the red LED lights up and an acoustic signal sounds. In addition the corresponding alarm message appears on the display

Alarm History

- The alarm history list contains all relevant data on temperature and powerfail events. The list contains up to 20 alarm situations.
- The status message “HISTORY” indicates that new entries have been made in the list.
- The alarm history list can be accessed via the “SHOW HISTORY” function in the EXTRA menu. Within the list you navigate by means of the UP and DOWN buttons. The first and last entry in the list are marked “BEGIN OF LIST” and “END OF LIST”
- The following information is stored in the Alarm History :

▷ Temperature alarm :

ALARM :	type of alarm (HIGH ALARM or LOW ALARM)
START :	Start date and time of alarm situation
END :	End date and time of alarm situation
AVG :	Average temperature on the display sensor during the alarm situations.
MAX / MIN :	Maximum or minimum temperature value on the display sensor during the alarm situation (depending on the type of temperature alarm)

▷ Powerfail alarm :

ALARM :	POWERFAIL
START :	Start date and time of alarm situation
END :	End date and time of alarm situation
AVG :	Average temperature on the display sensor during the alarm situations

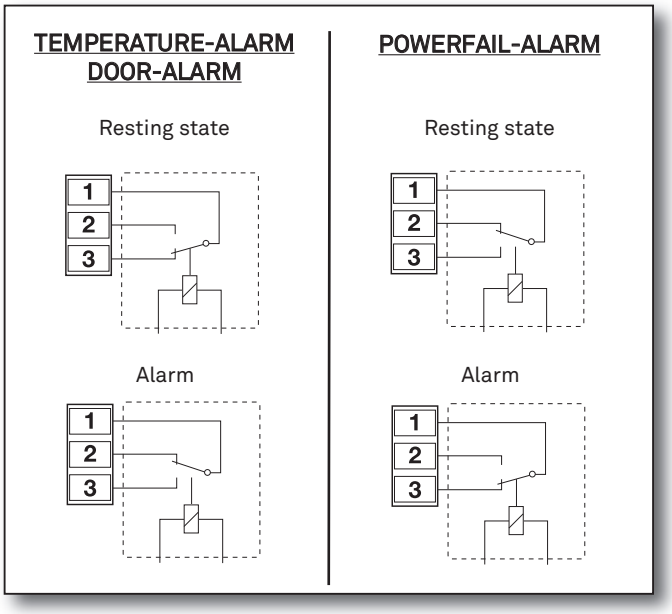
- To delete the alarm history, select the function “DELETE HISTORY” from the EXTRA menu.

Rechargeable battery

- The monitoring functions of the electronics during an interruption of the power supply for at least 48 hours are maintained by an integrated rechargeable battery.
- This battery is automatically charged when the appliance is connected.
- If the capacity of the battery is no longer sufficient to take over the control function, the error message “BAT.1 LOW/FAIL” appears on the display.
- At the first starting up it may happen that the message „BAT.1 LOW/FAIL” appears. The message will disappear as soon as the battery is charged.
- The battery should be pre-emptively replaced every 2 years. This replacement must only be carried out by a recognised service technician. Before dismantling the battery the appliance must be switched off and the plug pulled out.
- The battery is a lead-acid storage battery that must be disposed of separately in the case of a fault.

External Alarmfunction

- There are two terminals with three floating contacts on the back of the unit that can be used to trigger an additional external alarm (visual or audible).
- The upper contacts correspond to temperature- and door-alarm, the lower contacts correspond to a powerfail-alarm.
- Pressing the ENTER-key in an alarm situation only switches off the internal audible alarm. The key does not interfere with the external alarm. The external alarm signal is only switched off once the cause of the alarm has been eliminated.
- A voltage of between 12V DC and a maximum of 250V AC can be connected at the contacts. The maximum load must not exceed 8A. The minimum power rating is 100mA / 5V.



Safety thermostat

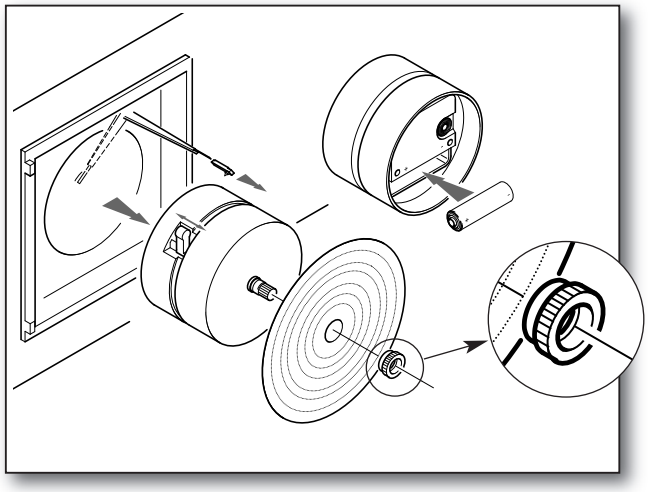
- All units are fitted with a safety thermostat. This thermostat switches off the compressor as soon as the inside temperature falls below +2°C, to prevent the goods being harmed by freezing.

Interior fittings

- Depending on the model series, height-adjustable drawers or racks are included as standard fittings.
- The load must be evenly distributed over the drawers or racks.
- Pull out the drawers using the handles only.
- To remove the drawers (e.g. to clean them), pull the draw out to the stop and then lift.
- The appliances are designed in such a way that they have optimal function with the original fittings. If interior fittings from other suppliers are to be used, this must be definitely agreed with the manufacturer.

Temperature recorder (optional)

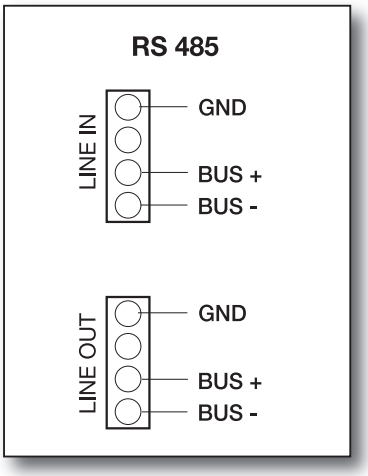
- The recorder is used to record the temperature response over a certain period. This period can either be set to 7 days (preset) or 24 hours, as required. To change the setting, proceed as follows: raise the lever with the recording stylus and take the lock nut off the recorder axis. You can now remove the recorder disk. Now pull the recorder axis to remove the assembly from the housing. The switch with which to set the required time period is located on the side of the assembly.
- The disks for the two time periods are different. Make sure that you insert the correct disk.
- The clockwork for the recorder is powered by a 1.5V AA battery. This is located on the underside of the recorder assembly.



- To replace the stylus, take the old stylus out of the stylus retainer and push the new one into the guides until it stops. Be careful not to touch the stylus with your fingers.
- When re-assembling, make sure that the lock nut is sited correctly.

RS485 Interface

- The unit is equiped with an RS485 interface. You can use this interface to connect the unit to a PC or to network it to other refrigerating equipment.
- For information about connection options and software, contact your local service centre.



Cleaning

- The refrigerator should be cleaned and if necessary disinfected before you use it for the first time and then at regular intervals thereafter.
- Only use gentle cleaning agents. Never use aggressive or caustic cleaning agents, scouring powder, steel wool, abrasive sponges or chemical solvents. When cleaning, make sure that no fluids of any kind run into the ventilation housing.
- Before restarting the unit after cleaning, the interior must be thoroughly dried.

Fan

- When units are fitted with internal ventilation, it is vital that the interior fan is always in working order.
- To prevent warm outside air being sucked in unnecessarily when the door is open, the fan switches off when the door is opened.
- The airflow to the fan must never be impeded. The ventilation slots must therefore never be blocked or covered.

Machine Compartment

IMPORTANT:
Before carrying out any maintenance or cleaning work in the machine compartment, always switch off the unit and remove the plug from the mains.

- The condenser/liquefier must be regularly dusted with the aid of a hand brush or a vacuum cleaner. This cleaning interval is set in the factory and is indicated by a “SERVICE” message on the display.